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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/716,948

11/19/2003

Yu-Nung Shen

P/727-123

7269

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7590

03/15/2006

OSTROLENK FABER GERB & SOFFEN
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NEW YORK, NY 100368403

EXAMINER

HA, NATHAN W

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,948

Applicant(s)

SHEN, YU-NUNG

Examiner

Nathan W. Ha

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 108 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on August 1, 2005 is acknowledged. The traversal is on the ground(s) that the search is c-extensive. This is not found persuasive because the fact that the inventions are classified in different classes, 257 and 438, indicates that the burden is on the Examiner. Thus, the searches for the two inventions are not coextensive.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma, US 6,713,859.

In regard to claim 1, in fig. 1k, Ma discloses a semiconductor device comprising:
a semiconductor die 102 having a pad-mounting surface defining a
horizontal plane, and a plurality of spaced apart first bonding pads 108 formed on the

pad-mounting surface; and

a multi-level interconnect structure formed on the pad-mounting surface and including

a first insulating layer 118 formed on the pad-mounting surface and formed with a plurality of first holes 122, fig. 1D, each of which exposes a respective one of the first bonding pads from said pad-mounting surface,

a horizontal plurality of first level conductive bodies 124, for example, each of which has an end section respective one of said first holes that fills a respective one of the first bonding pads, and an extension that extends from the end section that is formed on said first insulating layer, and that has a connecting end horizontally offset from the respective one of the first holes,

a second insulating layer 126 formed on the first insulating layer and formed with a plurality of the first holes each of which exposes the connecting end of the extension of a respective one of said first level conductive horizontal bodies from the second insulating layer, and

a plurality of second level conductive vertical bodies 134, for example, each of which fills a respective one of the first holes in said second insulating layer to electrically connect with the connecting end of the extension of a respective one of the first level conductive horizontal bodies, and each of which has a connecting end that extends through the respective one of said first holes in said second insulating layer.

In regard to claim 2, Ma further discloses a third insulating layer 136 formed on the second insulating layer and formed with a plurality of first holes, the connecting end

of each of the second level conductive vertical bodies extending into a respective one of said first holes in said third insulating layer, see fig. 1K.

In regard to claim 3, Ma further discloses a plurality of conductive bumps, which extends into a respective one of said first holes said third insulating layer, and each of which is electrically connected to said connecting end of a respective one of the second level conductive vertical bodies, fig. 1K.

In regard to claims 4-7, see the above discussions regarding to claims 1-3.

In regard to claim 8, Ma further discloses a metal formed in the holes and have extensions on the both sides.

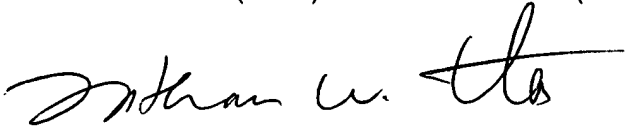
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Nathan Ha", with a stylized flourish at the end.

Nathan Ha
February 23, 2006